



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,916	09/18/2006	Asim Kumar Sarkar	294-231 PCT/US	4536
23869 7590 04/09/2009 HOFFMANN & BARON, LLP 6900 JERICHO TURNPIKE SYOSSET, NY 11791				
EXAMINER				
REDDY, KARUNA P				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
04/09/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/552,916

Applicant(s)

SARKAR, ASIM KUMAR

Examiner

KARUNA P. REDDY

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) 10-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 15-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the amendment filed 2/9/2009. Claims 1 and 8 are amended; claim 9 is cancelled; claims 10-14 are withdrawn; and claims 17-19 are added. Accordingly, claims 1-8 and 15-19 are currently pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Claims 1-8 and 15-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites the transitional phrase "consisting of" and is not supported by the originally filed disclosure. While there is support for polymerization initiator system consisting of 2,2'-azobis(2-amidinopropane) dihydrochloride in a PVA bag (see example 1), there is no support for a generic water-soluble azo-initiator, and at least one of water-soluble anti-foaming agent and water-soluble diluent in a water-soluble container.

Claims 2-8 and 15-18 are subsumed by this rejection because of the dependence either directly or indirectly on independent claim 1

Claim Rejections - 35 USC § 103

4. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over McVay (US 3,784, 005) in view of Amo et al (EP 0 668 098 A1) and Duffield et al (US 2003/0108705 A1).

McVay et al disclose a package containing materials to be added to a resin formulation and comprises a thin-walled plastic envelope which is soluble in the resin formulation (abstract). After materials are placed inside the lined rigid container, the flaps are sealed to form an enclosed film package. The additive is intended to embrace any material which is added to a resin formulation and includes catalysts (column 1, lines 24-30). The additive package comprises an envelope made of a thin film of synthetic organic polymeric material which is soluble in at least one component of the resin formulation into which the additive is to be introduced. The resin formulation contains one or more components in which the thin film of organic polymeric material will dissolve i.e. one or more solvent components. The term "solvent component" is used in some of the claims to mean the component of the formulation which will dissolve the film (column 4, lines 18-30). McVay also contemplates an additive package which contains a plurality of additives. In cases where compatibility of additives is obtained only when they are in dry state, care should be exercised to place dry additives in the envelope (column 7, lines 56-63).

McVay is silent with respect to azo-initiator in powder, crystal or granular form; and water-soluble container/package.

However, Amo et al teach that water-soluble azo-compounds have skin irritant action and spherical granules of water-soluble azo compound, which causes no dust,

are prepared in view of safety. Azo compounds are highly useful as radical polymerization initiators. Therefore, it would have been obvious to use spherical granular azo-initiators, based on the teachings of Amo et al, because McVay et al generically discloses that the additives, in dry state, can include catalysts and Amo et al teach azo polymerization initiators i.e. catalysts in spherical granular form for safety reasons and one of ordinary skill would have expected successful results for all catalysts, including azo initiators of Amo et al, absent evidence of unexpected results.

With respect to water-soluble container, Duffield et al teach water-soluble containers made of an injection molded polymer, for example, a poly(vinyl alcohol) and/or cellulose ether (paragraph 0011-0012). Therefore, it would have been obvious to use a water-soluble container/package of Duffield et al, which is capable of being injection molded, because McVay in view of Amo contemplates using a package/container that is soluble in the resin formulation of reaction system and a known water-soluble container, that can be injection molded, would have been an obvious choice if the reaction is carried out in aqueous solution.

5. Claims 1-8 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over McVay (US 3, 784, 005) in view of Amo et al (EP 0 668 098 A1), Duffield et al (US 2003/0108705 A1) and Uchiyama et al (JP 56048210 A).

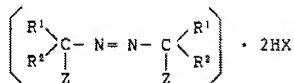
McVay et al disclose a package containing materials to be added to a resin formulation and comprises a thin-walled plastic envelope which is soluble in the resin formulation (abstract). After materials are placed inside the lined rigid container, the flaps are sealed to form an enclosed film package. The additive is intended to embrace any material which is added to a resin formulation and includes catalysts (column 1,

lines 24-30). The additive package comprises an envelope made of a thin film of synthetic organic polymeric material which is soluble in at least one component of the resin formulation into which the additive is to be introduced. The resin formulation contains one or more components in which the thin film of organic polymeric material will dissolve i.e. one or more solvent components. The term "solvent component" is used in some of the claims to mean the component of the formulation which will dissolve the film (column 4, lines 18-30). McVay also contemplates an additive package which contains a plurality of additives. In cases where compatibility of additives is obtained only when they are in dry state, care should be exercised to place dry additives in the envelope (column 7, lines 56-63).

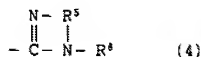
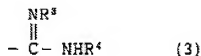
McVay is silent with respect to azo-initiator; water-soluble container/package; anti-foaming agent or diluent; amount of initiator in the container; and handling of the polymerization initiator system.

However, Amo et al teach that water-soluble azo-compounds have skin irritant action and spherical granules of water-soluble azo compound, which causes no dust, are prepared in view of safety. Azo compounds are highly useful as radical polymerization initiators and are known by formula depicted below -

Art Unit: 1796



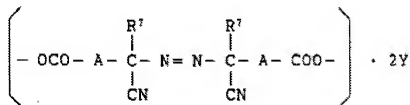
R^1 and R^2 are same or different and are each alkyl group or cycloalkyl group,
 Z is a group represented by the formula (3) or formula (4)



R^3 is hydrogen atom, alkyl, allyl, phenyl or substituted phenyl group,
 R^4 is hydrogen atom, alkyl, phenyl or substituted phenyl group,
 R^5 is alkylene or substituted alkylene group,

R^6 is hydrogen atom or hydroxyalkyl group,

X is Cl, Br or CH_3COO^- group



A is alkylene or substituted alkylene group,

R^7 is alkyl group,

Y is alkali metal, alkaline earth metal ($2Y$) or NH_4 .

See example 1 wherein 2, 2-azobisamidinopropane dihydrochloride is the azo polymerization initiator. Therefore, it would have been obvious to use spherical granular

azo-initiators such as those shown above, based on the teachings of Amo et al, because McVay et al generically discloses that the additives, in dry state, can include catalysts and Amo et al teach azo polymerization initiators i.e. catalysts in spherical granular form for safety reasons and one of ordinary skill would have expected successful results for all catalysts, including azo initiators of Amo et al, absent evidence of unexpected results.

With respect to water-soluble container, Duffield et al teach water-soluble containers made of an injection molded polymer, for example, a poly(vinyl alcohol) and/or cellulose ether (paragraph 0011-0012). Therefore, it would have been obvious to use a water-soluble container/package of Duffield et al, which is capable of being injection molded, because McVay in view of Amo contemplates using a package/container that is soluble in the resin formulation of reaction system and a known water-soluble container, that can be injection molded, would have been an obvious choice if the reaction is carried out in aqueous solution.

With respect to anti-foaming agent, Uchiyama teaches water-soluble antifoaming agent that can be used in the synthetic resin industry (abstract). Therefore, it would have been obvious to one skilled in the art at the time invention was made to add the water-soluble foaming agent, of Uchiyama et al, to the additive package if anti-foaming properties are desired during the polymerization process. Court held that selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945).

With respect to the amount of initiator, while none of the references elucidate that value, it is the examiner's position that initiator amount is a result-effective variable (MPEP 2144.5) since the amount used clearly affects the course of polymerization.

Hence, the choice of a particular amount of initiator (such as the amount in present claims) is a matter of routine experimentation and would have been well within the skill level of one of ordinary skill in the art.

With respect to handling of the initiator in a water-soluble container, it is within the scope of a skilled artisan and is determined by logistics of the manufacturing site, absent evidence of criticality.

Response to Arguments

6. Applicant's arguments, filed 2/9/2009, with respect to objection of claim 7 have been fully considered and are persuasive. The objection of claim 7 has been withdrawn.
7. Applicant's arguments, filed 2/9/2009, with respect to rejection of claims 1-9 and 15-16 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement have been fully considered and are persuasive. The rejection of claims 1-9 and 15-16 under 35 U.S.C. 112, first paragraph has been withdrawn in view of the amendment.
8. Applicant's arguments filed 2/9/2009 have been fully considered but they are not persuasive. Specifically, Applicant argues that (A) McVay characterizes azo catalysts as being sensitive catalysts and thus require suspension in a liquid vehicle. The transitional phrase "consisting of" excludes the presence of liquid vehicle. Furthermore, claim 19 states that the azo-initiator is in the form of powder, crystals and granules; (B) Amo et al do not disclose or suggest a use for the granules of water-soluble azo compound; (C)

Duffield et al do not disclose or suggest using the containers to hold azo initiators; (D) there has been a long felt need in the industry for delivering azo-initiators to a polymerization system without exposing workers to hazardous azo-initiators and is evidence of non-obviousness.

With respect to (A), it is noted that McVay discloses generically the catalysts as additives to be packaged with no reference to azo catalysts as sensitive catalysts that need to be suspended in a liquid vehicle. There is no reference to azo catalysts either in col. 2, lines 46-59 or col. 3, lines 5-9 of McVay (US 3,784,005) as alleged by the applicant. Therefore, applicant's arguments are not persuasive.

With respect to (B), applicant's attention is drawn to Amo et al (page 2, lines 3-9) wherein it is disclosed that azo compounds are useful as radical polymerization initiators (i.e. catalysts) for producing polymers.

With respect to (C), Duffield is only used for its teaching that containers holding additives can be made of water-soluble polymer that is injection molded. It is noted that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

With respect to (D), long-felt need is analyzed as of the date the problem is identified and articulated, and there is evidence of efforts to solve that problem. *Texas Instruments Inc. v. Int'l Trade Comm'n*, 988 F.2d 1165, 1179, 26 USPQ2d 1018, 1029 (Fed. Cir. 1993). However, there is no showing that others of ordinary skill in the art were working on the problem and if so, for how long. In addition, there is no evidence that if persons skilled in the art who were presumably working on the problem knew of

the teachings of the above cited references, they would still be unable to solve the problem. Also, the failure to solve a long-felt need may be due to factors such as lack of interest or lack of appreciation of an invention's potential or marketability rather than want of technical know-how. See *Scully Signal Co. v. Electronics Corp. of America*, 570 F.2d 355, 196 USPQ 657 (1st. Cir. 1977). See MPEP § 716.04.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARUNA P. REDDY whose telephone number is (571)272-6566. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. P. R./
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796